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# MSMR

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## Medical Surveillance Monthly Report

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*Data in the MSMR is provisional, based on reports and other sources of data available to the Medical Surveillance Activity. Notifiable conditions are reported by date of onset (or date of notification when date of onset is absent). Only cases submitted as confirmed are included.*

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Report from the field

## New World Cutaneous Leishmaniasis Patients at WRAMC

In the US military, New World cutaneous leishmaniasis is a disease that is typically seen in personnel who have deployed to Central and South America, particularly to the Jungle Operations Training Center (JOTC) at Ft. Sherman, Panama, or the French Foreign Legion jungle training school in French Guiana (4). In the Americas, the causative agents are intracellular protozoa (*L. braziliensis*, *L. peruviana* and *L. mexicana*; rarely *L. chagasi*). The organism is spread by sand flies, *Lutzomyia* and *Psychodopygus* species in the Americas and *Phlebotomus* species elsewhere. The disease "ranges from a self-healing, localized ulcer to widely disseminated, progressive lesions of the skin and mucous membranes." (1). This zoonotic disease's primary reservoir is small forest rodents or in the case of *L. peruviana*, dogs. New world cutaneous leishmaniasis is most common in individuals who work in jungles (rural settlers, road builders, and soldiers). It is seen during the hot season and after the summer rains (2).

Definitive diagnosis is by demonstrating amastigotes upon biopsy/scraping/aspirate taken from the edge of the lesion, NOT the center. Treatment is with either sodium stibogluconate (Pentostam) in the US or meglumine antimoniate (Glucantime) in South America.

The U.S. FDA classifies Pentostam as an investigational new drug; therefore, its use requires adherence to specific protocol guidelines. Only two locations in the United States are allowed to use Pentostam: the CDC and WRAMC. The WRAMC protocol for cutaneous leishmaniasis uses intravenous Pentostam 20 mg/kg each day for 20 days. The protocol for treatment with Pentostam requires close monitoring of treatment including a weekly EKG (looking for QT prolongation, a side effect of Pentostam), CBC (looking for cytopenia, anemias, leukopenias, pancytopenias), and lipase/amylase (drug-induced pancreatitis occurs in 50 percent of patients (5)).

WRAMC is the U.S. military's referral center for treatment of leishmaniasis with Pentostam. In recent weeks, there have been 5 cases of New World cutaneous leishmaniasis admitted to WRAMC and enrolled in the Pentostam treatment protocol.

**Patient A** A 22-year-old white male, active-duty Army sergeant from Ft Bragg. He attended JOTC during October 1995 for three weeks. He reported that he and two other members of his unit were issued 2 yellow cans (presumably permethrin) to spray their BDUs (four BDU sets per soldier). He reported also using 75% DEET (in the bottle), 33% DEET (in the

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tube), and Deep Woods Off (in a can). He did not treat his bednet with permethrin. On 15 November 1995, he noted an enlarging "mosquito bite" on his left wrist. He was treated by a physician assistant who prescribed Keflex with no improvement. He was then referred to a dermatologist who biopsied the lesion in December 1995. The biopsy showed leishmania amastigotes.

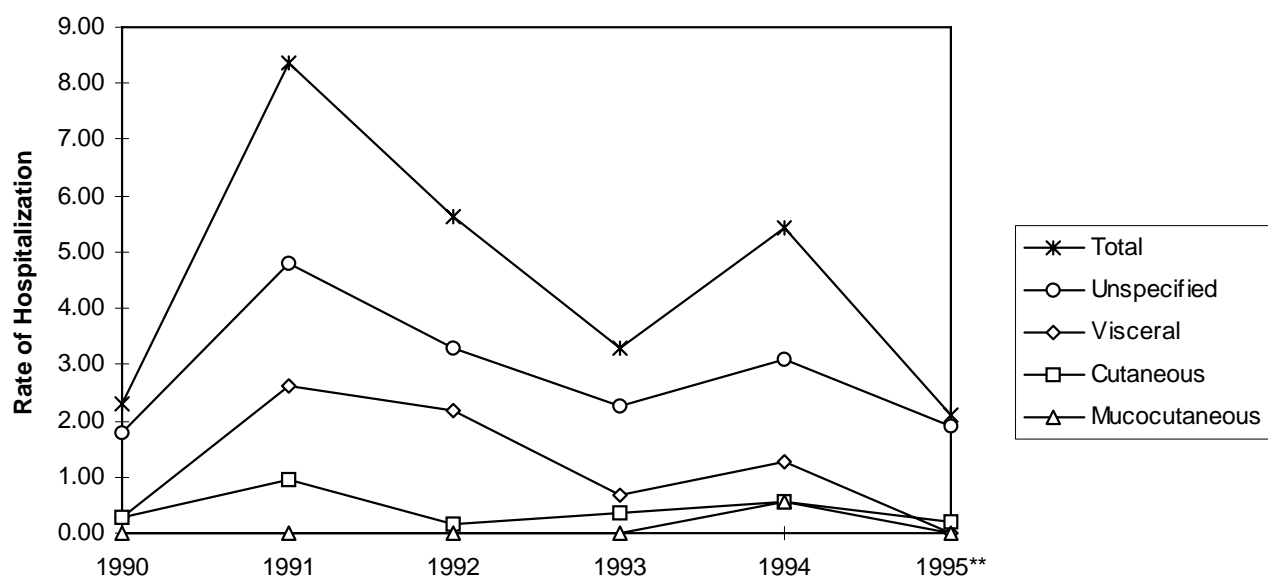
**Patient B** A 24-year-old white male, active-duty Army lieutenant from the same unit as Patient A who also went to JOTC in October 1995. While in Panama, he did not use any topical DEET product or permethrin "because bugs don't seem to bother me at home," nor did he use a bed net. On the dorsum of his right foot he noted two "ant bites" which subsequently enlarged and "started draining pus". He went to sick call and was given antibiotics with no improvement. He noted an additional lesion at posterior waistline and was finally diagnosed with leishmaniasis.

**Patient C** A 22-year-old male, active-duty Army corporal from Ft. Bragg who also attended JOTC in October 1995 with cases A and B. The patient reportedly used several types of topical DEET repellents including military-issue 33% DEET lotion (in the tube). He reported not applying permethrin to treat his BDU or bednet. Furthermore, he did not use his untreated bednet even though he was instructed to do so. One week after returning to Ft. Bragg, the patient noted a sore on his right hand "like an ant bite" which progressively enlarged. He was referred to dermatology where a biopsy demonstrated cutaneous leishmaniasis.

**Patient D** A 22-year-old white male, reserve Marine from Alaska who went to French Guiana in the fall of 1995. He used a topical 100% commercial DEET formulation of Deep Woods Off. (He had not heard of permethrin for treatment of BDUs and bednets.) He noted non-healing ulcers on knee, back, and abdomen. Suspecting cutaneous leishmaniasis (patient had been

*Continued on page 7*

**Leishmaniasis Hospitalization Rates\*, Active Duty Army  
1990 - 1995**



\* Rates are calculated per 100,000 soldiers per year

\*\* Hospitalizations through September 1995 only

**TABLE I. Cases of selected notifiable conditions, United States Army\***  
**February, 1996**

Reporting MTF/Post**	Total number of reports submitted February 1996	Environmental Injuries			Viral Hepatitis			Malaria	Varicella	
		Active Duty		CO intox.				Active Duty	Active Duty	Other Adult
		Heat	Cold		A	B	C			
		Cum. 1996	Cum. 1996	Cum. 1996	Cum. 1996	Cum. 1996	Cum. 1996	Cum. 1996	Cum. 1996	Cum. 1996
NORTH ATLANTIC HSSA										
Walter Reed AMC	31	-	-	-	1	-	-	-	-	-
Aberdeen Prov. Ground	7	-	3	-	-	-	-	-	-	-
FT Belvoir, VA	10	-	-	-	-	-	-	-	-	-
FT Bragg, NC	4	-	2	-	-	-	-	-	-	-
FT Drum, NY	13	-	21	-	-	-	-	1	1	-
FT Eustis, VA	12	-	-	-	-	-	-	-	-	-
FT Knox, KY	39	-	2	-	-	-	1	-	-	-
FT Lee, VA	19	-	-	-	-	-	-	-	-	-
FT Meade, MD	0	-	-	-	-	-	-	-	-	-
USMA, West Point, NY	0	-	-	-	-	-	-	-	-	-
CENTRAL HSSA										
Fitzsimons AMC	2	-	-	-	-	-	-	-	-	-
FT Carson, CO	86	-	32	-	-	-	-	-	-	-
FT Leonard Wood, MO	35	-	1	-	-	-	-	-	15	1
FT Leavenworth, KS	3	-	-	-	-	-	-	-	-	-
FT Riley, KS	0	-	-	-	-	-	-	-	-	-
SOUTH CENTRAL HSSA										
Brooke AMC	11	-	-	-	-	-	-	-	-	-
FT Hood, TX	25	-	1	-	-	-	-	-	2	-
FT Polk, LA	19	-	-	-	-	-	-	-	-	-
FT Sill, OK	27	-	-	-	-	-	1	-	-	-
Panama	15	1	-	-	2	1	2	-	-	1
SOUTHEAST HSSA										
Eisenhower AMC	18	-	-	-	-	-	-	-	-	-
FT Benning, GA	1	1	-	-	-	-	-	-	1	-
FT Campbell, KY	134	-	-	-	-	-	-	-	-	-
FT Jackson, SC	52	-	-	-	-	-	-	-	-	-
FT McClellan, AL	2	-	-	-	-	-	-	-	1	-
FT Rucker, AL	0	-	-	-	-	-	-	-	-	-
FT Stewart, GA	0	-	-	-	-	-	-	-	-	-
SOUTHWEST HSSA										
Wm Beaumont AMC	28	-	-	-	-	-	-	-	-	-
FT Huachuca, AZ	0	-	-	-	-	-	-	-	-	-
FT Irwin, CA	0	-	-	-	-	-	-	-	-	-
NORTHWEST HSSA										
Madigan AMC	0	-	-	-	-	-	-	-	-	-
FT Wainwright, AK	0	-	10	-	-	-	-	-	-	-
PACIFIC HSSA										
Tripler AMC	50	-	1	-	-	-	-	-	-	-
OTHER LOCATIONS										
Europe	12	-	-	-	-	-	-	-	-	-
Korea	7	-	1	-	-	1	-	-	1	-
Total	662	2	74	0	3	2	4	1	21	2

\* Based on date of onset.

\*\* Reports are included from main and satellite clinics. Not all sites reporting.

Date of Report: 7-Mar-96

**TABLE I. Cases of selected notifiable conditions, United States Army\* (continued)**  
**February, 1996**

Reporting MTF/Post**	Salmonellosis			Shigella			Campylobacteriosis			Tuberculosis	
	Active Duty	Other		Active Duty	Other		Active Duty	Other		Active Duty	Other
		Adult	Child		Adult	Child		Adult	Child		
	Cum. 1996	Cum. 1996	Cum. 1996	Cum. 1996	Cum. 1996	Cum. 1996	Cum. 1996	Cum. 1996	Cum. 1996	Cum. 1996	Cum. 1996
<b>NORTH ATLANTIC HSSA</b>											
Walter Reed AMC	1	-	-	-	-	-	1	2	-	-	-
Aberdeen Prov. Ground	-	-	-	-	-	-	-	-	-	-	-
FT Belvoir, VA	-	1	-	-	-	-	-	-	-	-	-
FT Bragg, NC	-	-	-	1	-	-	-	-	1	-	-
FT Drum, NY	-	-	-	-	-	-	-	-	-	-	-
FT Eustis, VA	-	-	-	-	-	-	-	-	-	-	-
FT Knox, KY	-	1	-	-	-	-	-	-	-	-	-
FT Lee, VA	-	-	-	-	-	-	-	-	-	-	-
FT Meade, MD	-	-	-	-	-	-	-	-	-	-	-
USMA, West Point, NY	-	-	-	-	-	-	-	-	-	-	-
<b>CENTRAL HSSA</b>											
Fitzsimons AMC	-	-	-	-	-	-	-	-	-	-	-
FT Carson, CO	-	-	-	-	-	-	1	-	-	-	-
FT Leonard Wood, MO	-	-	1	-	-	-	-	-	-	-	-
FT Leavenworth, KS	-	-	-	-	-	-	-	1	-	-	-
FT Riley, KS	-	-	-	-	-	-	-	-	-	-	-
<b>SOUTH CENTRAL HSSA</b>											
Brooke AMC	-	-	-	-	-	-	-	-	-	-	-
FT Hood, TX	-	-	-	-	-	-	-	-	-	-	-
FT Polk, LA	-	-	-	-	-	-	-	-	-	-	-
FT Sill, OK	-	-	-	-	-	-	-	-	-	-	-
Panama	-	2	2	-	-	2	-	-	7	-	-
<b>SOUTHEAST HSSA</b>											
Eisenhower AMC	-	-	-	-	-	-	-	-	-	-	-
FT Benning, GA	-	-	-	-	-	-	-	-	-	-	-
FT Campbell, KY	-	-	-	-	-	-	-	-	-	-	-
FT Jackson, SC	-	-	-	-	-	-	-	-	-	-	-
FT McClellan, AL	-	-	-	-	-	-	-	-	-	-	-
FT Rucker, AL	-	-	-	-	-	-	-	-	-	-	-
FT Stewart, GA	-	-	-	-	-	1	-	-	-	-	-
<b>SOUTHWEST HSSA</b>											
Wm Beaumont AMC	-	-	1	-	-	-	-	-	-	-	-
FT Huachuca, AZ	-	-	-	-	-	-	-	-	-	-	-
FT Irwin, CA	-	-	-	-	-	-	-	-	-	-	-
<b>NORTHWEST HSSA</b>											
Madigan AMC	-	-	-	-	-	-	-	-	-	-	-
FT Wainwright, AK	-	-	-	-	-	-	-	-	-	-	-
<b>PACIFIC HSSA</b>											
Tripler AMC	-	-	-	-	-	-	-	-	-	-	-
<b>OTHER LOCATIONS</b>											
Europe	-	-	2	-	-	-	1	-	1	-	-
Korea	-	-	-	-	-	-	-	-	-	3	-
<b>Total</b>	<b>1</b>	<b>4</b>	<b>6</b>	<b>1</b>	<b>0</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>9</b>	<b>3</b>	<b>0</b>

\* Based on date of onset.

\*\* Reports are included from main and satellite clinics. Not all sites reporting.

Date of Report: 7-Mar-96

**TABLE II. Cases of notifiable sexually transmitted diseases, United States Army  
February, 1996**

Reporting MTF/Post*	Chlamydia		Urethritis non-spec.		Gonorrhea		Herpes Simplex		Syphilis Prim/Sec		Syphilis Latent		Other STDs**	
	Cur. Month	Cum. 1996	Cur. Month	Cum. 1996	Cur. Month	Cum. 1996	Cur. Month	Cum. 1996	Cur. Month	Cum. 1996	Cur. Month	Cum. 1996	Cur. Month	Cum. 1996
<b>NORTH ATLANTIC HSSA</b>														
Walter Reed AMC	10	12	3	6	5	10	3	15	-	-	-	-	-	-
Aberdeen Prov. Ground	2	2	-	1	2	4	-	-	-	-	-	-	-	-
FT Belvoir, VA	3	8	-	-	-	1	-	-	-	-	-	-	-	-
FT Bragg, NC	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FT Drum, NY	3	11	1	3	2	11	1	2	-	-	-	-	-	-
FT Eustis, VA	-	8	-	-	-	3	-	-	-	-	-	-	-	-
FT Knox, KY	8	21	-	-	8	14	5	10	-	-	-	-	-	-
FT Lee, VA	12	23	-	1	7	13	-	1	-	-	-	-	-	-
FT Meade, MD	-	-	-	-	-	-	-	-	-	-	-	-	-	-
USMA, West Point, NY	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>CENTRAL HSSA</b>														
Fitzsimons AMC	-	1	-	-	-	-	-	-	-	-	-	-	-	-
FT Carson, CO	18	42	27	50	7	14	7	10	-	-	-	-	-	-
FT Leonard Wood, MO	9	14	6	11	2	5	-	1	-	-	-	-	-	-
FT Leavenworth, KS	-	-	-	-	-	1	-	1	-	-	-	-	-	-
FT Riley, KS	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>SOUTH CENTRAL HSSA</b>														
Brooke AMC	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FT Hood, TX	9	33	3	4	5	10	-	6	-	1	-	-	-	-
FT Polk, LA	10	16	-	-	4	11	-	1	-	-	-	-	-	-
FT Sill, OK	6	26	1	4	4	11	1	1	-	-	-	-	1	1
Panama	-	-	-	-	-	1	-	-	-	-	-	-	-	5
<b>SOUTHEAST HSSA</b>														
Eisenhower AMC	7	14	-	1	3	7	4	11	-	1	-	-	-	-
FT Benning, GA	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FT Campbell, KY	28	74	-	-	11	21	4	7	-	1	-	-	-	-
FT Jackson, SC	57	85	-	-	2	4	4	9	-	-	-	-	-	-
FT McClellan, AL	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FT Rucker, AL	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FT Stewart, GA	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>SOUTHWEST HSSA</b>														
Wm Beaumont AMC	6	25	-	-	1	5	-	6	-	-	-	-	-	-
FT Huachuca, AZ	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FT Irwin, CA	-	5	-	-	-	2	-	-	-	-	-	-	-	-
<b>NORTHWEST HSSA</b>														
Madigan AMC	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FT Wainwright, AK	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>PACIFIC HSSA</b>														
Tripler AMC	15	31	-	-	2	10	10	20	-	-	1	1	-	-
<b>OTHER LOCATIONS</b>														
Europe	-	5	-	-	-	-	-	-	-	-	-	-	-	-
Korea	2	3	-	-	1	2	-	2	-	-	-	-	1	1
<b>Total</b>	<b>205</b>	<b>459</b>	<b>41</b>	<b>81</b>	<b>66</b>	<b>160</b>	<b>39</b>	<b>103</b>	<b>0</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>7</b>

\* Reports are included from main and satellite clinics. Not all sites reporting.

Date of Report: 7-Mar-96

\*\* Other STDs: (a) Chancroid (b) Granuloma Inguinale (c) Lymphogranuloma Venereum (d) Syphilis unsp. (e) Syph, tertiary (f) Syph, congenital

*Continued from page 3*

briefed about it), he went to an Air Force family practitioner and asked, "Is this leishmaniasis?" "No," replied the physician. His condition did not improve with time, so he was sent to a dermatologist who did a biopsy which revealed leishmania amastigotes. Patient D was admitted to WRAMC during January 1996. Three other marine reservists from his 28-person unit were also diagnosed with cutaneous leishmaniasis and are being evaluated for treatment at Brooke Army Medical Center.

**Patient E** A 26-year-old male, college student reserve Marine from North Carolina who went to JOTC in August 1995. At JOTC, the inbriefing included a brief discussion and photographs of cases of cutaneous leishmaniasis. He used 33% DEET and slept "wrapped up in a mosquito net." (The members of his team would sleep on the jungle floor wrapped up in their poncho liners and mosquito bars). The patient had never heard of permethrin. After redeployment, he noted a "pimple" in the right pre-auricular region which he cut while shaving. The lesion subsequently became inflamed. He went to a civilian provider who prescribed erythromycin. After a 7 day course with no improvement, he was prescribed a 7-day course of dicloxacillin, again with no improvement. Also, the patient developed smaller lesions on his left thigh. He discussed his condition with his unit's independent duty corpsman who suggested that it might be leishmaniasis "because 3-4 other marines had the same problem, and they had been diagnosed with leishmaniasis." A biopsy was performed at the college dispensary and diagnosed as cutaneous leishmaniasis in December 1995. Patient E was admitted to WRAMC during February 1996.

**Editorial Comment:** Five cases of cutaneous leishmaniasis have recently been admitted to WRAMC for evaluation and treatment. These new cases are part of a series that are costly to the individual and his

unit. Although non-lethal, the disease can be disfiguring and can affect the patient's ability to perform his regular military duties. The unit also bears a significant loss until the patient is evaluated, treated, and recovers, then rejoining his unit at full capacity. Additionally, direct costs of each hospitalization for cutaneous leishmaniasis have been estimated to cost the US government at least \$25,000 (1993 dollars) (3).

This disease can be prevented. The U.S. military's system of personal protection measures (33% DEET extended-duration topical lotion (in the tube), permethrin-treated BDUs (and bednets), and proper wearing of the BDU (pant legs tucked into boots, sleeves rolled down, etc.) plays a critical role in preventing sand fly bites and the transmission of cutaneous leishmaniasis. Each patient demonstrated a significant deficit in his knowledge of personal protection doctrine. Two of the five had never heard of permethrin, and one described the improper use of bednets. These deficits translated into greater risks of receiving nuisance insect bites and acquiring a vector-borne disease.

Command enforcement of personal protection measure use in the field is probably the most important issue. Unit commanders are ultimately responsible for the health of their soldiers. One of the patients, an officer, discounted the utility of personal protective measures. Another soldier had not heeded the instruction to use bednets. In another case, the command did not provide adequate amounts of permethrin (one full can of permethrin is required to adequately treat one set of BDUs or a bednet). It was reported that many soldiers wrap themselves in untreated bednets, a situation that allows sand flies to bite through the mesh of the bednet.

The continued admissions of patients to WRAMC for cutaneous leishmaniasis are foreseen in the future unless compliance with personal protection guidelines is increased. No vaccine or chemoprophylaxis for leishmania is foreseen. Military personnel, including unit commanders, need to be adequately educated about U.S. military doctrine regarding their personal protection measures. Commanders must enforce its use in the field. Increased compliance will

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require significant changes in the attitudes and behaviors of many unit members. However, the benefits of these changes far outweigh the costs in lost productivity and illness, and will provide additional benefits during deployments where other biting insects besides sand flies are abundant.

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dated 9 SEP 1993 to Chief, Preventive Medicine Consultants Division, HQDA (SGPS-PSP), 5109 Leesburg Pike, Falls Church, VA 22041-3258.

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### Epidemiologic report

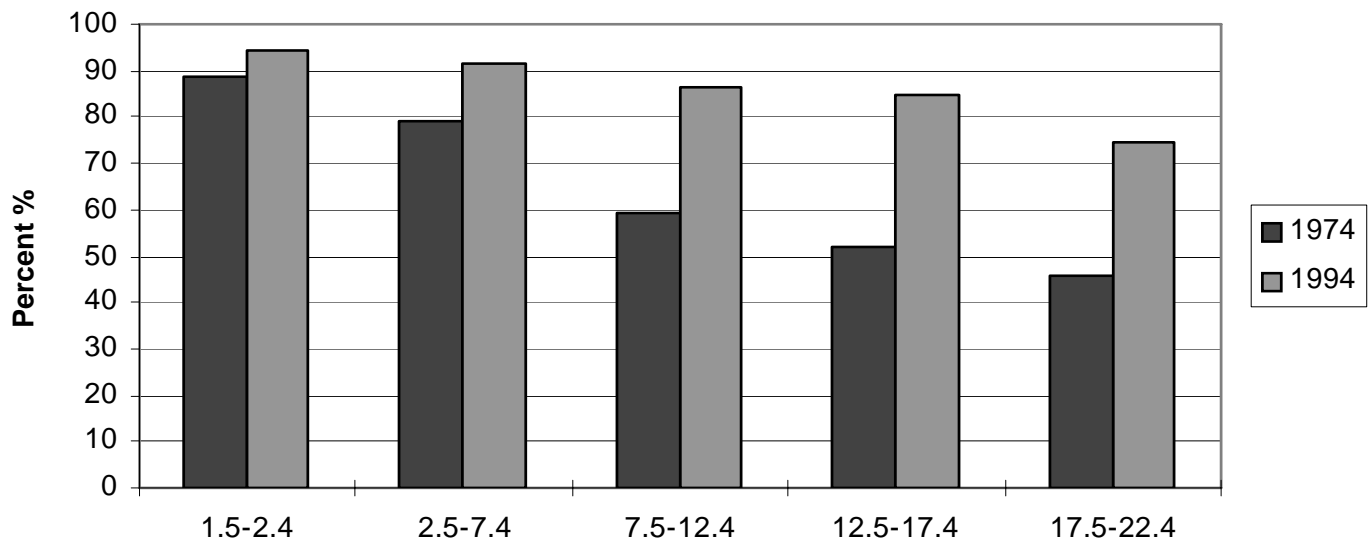
## Hearing Evaluation Audiometric Reporting System (HEARS)

The Army's Hearing Evaluation Audiometric Reporting System (HEARS) is the stand-alone hearing conservation module of the Occupational Health Management Information System (OHMIS). The HEARS audiometer prints audiograms for the health record and creates a record layout file for uploading into a local Manager's Module and into the HEARS Army-wide database. In the early years, data reporting and analysis focused primarily on program participation and quality assurance issues. After HEARS was automated in 1987, improved data integrity lent more confidence to investigations of program effectiveness.

In 1974 and 1994 the prevalence of hearing loss among enlisted combat arms personnel in the armor, artillery, and infantry branches was evaluated at 10 major installations in the continental United States. In

the original 1974 study, 3000 soldiers were randomly selected and equally divided among the three branches and the five time-in-service categories shown in Figure 1. The same 1974 sampling proportions were used at the 10 installations in the 1994 study. Preliminary data are encouraging; Figure 1 demonstrates a 24 percent increase in the prevalence of H-1 hearing profiles (normal) over the twenty year period and Figure 2 (see page 12) shows a 14.8 percent decrease in H-3 or greater hearing profiles (moderate to severe loss) over the same period. These results translate into increased readiness among our combat arms enlisted soldiers. The data are also consistent with a decrease in Veterans' primary disability cases and suggest that the vigorous implementation of the Army's Hearing Conservation Program, which began in the 1970's, is

**Figure 1. Prevalence of Normal Hearing (H-1 Profile) among Enlisted Combat Arms Soldiers by Years of Service 1974 and 1994**



effective.

*Submitted by Dr. D. Ohlin, Program Manager, Hearing Conservation Program, Directorate of Clinical Preventive Medicine, USACHPPM*

**Editorial Comments** This report provides a brief overview of the audiometric and epidemiologic studies of hearing loss being conducted under the sponsorship of the U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM). Noise-induced hearing loss (NIHL) is a major occupational health risk. In the United States, NIHL has been identified as one of the top ten leading occupational disorders.<sup>1</sup> The National Institute for Occupational Safety and Health (NIOSH) estimates that 7.4 to 10.2 million people in the U.S. work in facilities where noise levels are potentially hazardous to hearing.<sup>2</sup>

Recent estimates indicate that nearly two million workers aged 50 to 59 have compensable noise-induced hearing loss.<sup>3</sup> Total Office of Workers' Compensation Program (OWCP) costs for all federal agen-

cies from hearing loss claims for fiscal year 1995 were \$35,023,844. In 1995, the Department of the Army paid \$5,688,062 in compensation costs for 961 cases of hearing loss. The cost for hearing loss compensation represents 3% of all Department of the Army compensation dollars spent and the hearing loss cases make up slightly more than 4.6% of all workers' compensation cases. Additionally, U.S. Veterans Administration hearing loss compensation costs for calendar year 1995 were \$251,913,384.

Under contract with USACHPPM, investigators from the Medical College of Virginia, are currently conducting several studies to assess the hearing loss prevention program efforts of the U.S. Army, and to determine the occupational and behavioral risk factors for hearing loss. The population to be studied will include both active duty and civilian employees enrolled in the U.S. Army's hearing conservation program. Audiometric tests administered were pure-tone, air conduction, hearing threshold examinations of each ear with tests including 500,1000,2000,3000,4000, and 6000 Hz.

*Continued on page 12*

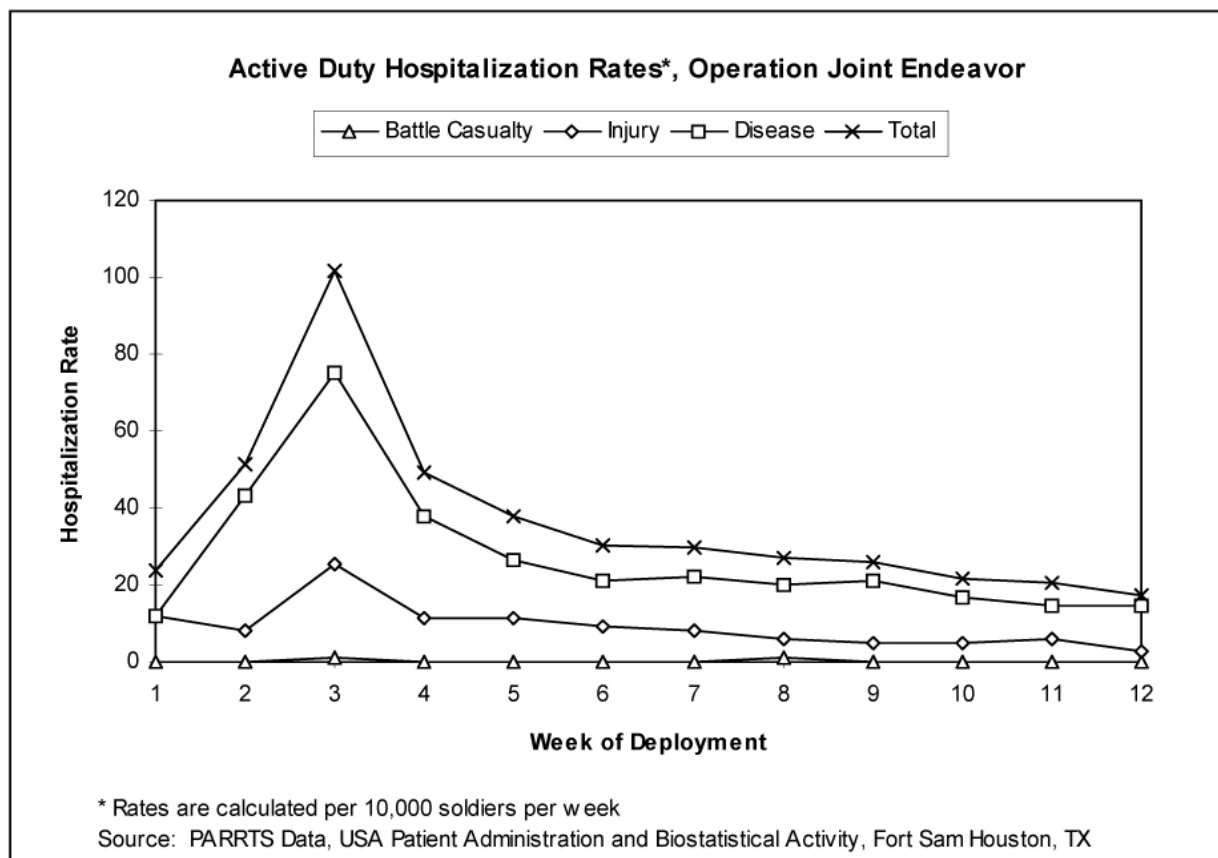
CASE REPORT**Leprosy in a Navy Family Member, Ft Hood, TX**

A 22 year-old female, Navy dependent, was diagnosed with Hansen's Disease while stationed in Guam in 1993. Biopsy results from Guam were consistent with the multibacillary (MB) type of the disease. The patient was born in the Philippines and lived in Guam for thirteen years. Her husband is in the active duty Navy. She first noticed lesions on her left thigh after her first pregnancy in 1992. A definitive diagnosis of Hansen's disease was made after her second pregnancy when similar lesions appeared in the same region and the biopsy was taken. During her third pregnancy, the patient's medications were discontinued and restarted one day after delivery; however, the

patient developed diffuse new lesions one day postpartum.

The patient recently delivered her fourth baby and has not had a recurrence. None of her four children show any evidence of the disease. The family medical history is significant for the fact that a sister was diagnosed with Hansen's Disease and was treated successfully in Guam approximately six years ago. The physical examination revealed multiple scattered hypopigmented lesions with decreased sensation. These lesions were described as flat to slightly raised plaques located mainly on the face, arms and legs. There were also scattered lesions on the back, chest,

*Continued on page 13*

**Surveillance Trends, Bosnia**

Bosnia Update**TABLE S1. Active Duty Hospitalizations, Operation Joint Endeavor, 11Dec95 - 03Mar96**

ICD-9 Category	Males							Females							All <sup>§</sup>
	< 20	20-24	25-29	30-34	35-39	>= 40	Total <sup>§</sup> M	< 20	20-24	25-29	30-34	35-39	>= 40	Total <sup>§</sup> F	
Infectious and Parasitic Diseases	6	25	13	8	0	1	57	0	4	3	3	0	0	10	67
Neoplasms	1	0	0	0	0	0	2	0	0	0	0	1	0	1	3
Endocrine, Nutritional, and Metabolic Disease and Immunity Disorders	0	0	2	0	0	0	3	0	0	0	0	0	0	0	3
Diseases of the Blood and Blood-Forming Organs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mental Disorders	1	9	6	4	1	1	25	0	0	5	0	0	0	5	30
Diseases of the Nervous System and Sense Organs	3	4	4	1	1	2	22	0	2	1	0	0	2	6	28
Diseases of the Circulatory System	1	4	8	6	4	2	27	0	0	0	0	0	0	0	27
Diseases of the Respiratory System	0	17	8	6	4	4	49	0	4	2	0	2	1	11	60
Diseases of the Digestive System	0	23	9	7	3	2	55	3	2	0	0	0	0	7	62
Diseases of the Genitourinary System	0	7	9	3	2	0	24	0	4	4	1	2	1	14	38
Complications of Pregnancy, Childbirth, and the Puerperium*	-	-	-	-	-	-	-	0	1	1	0	0	0	2	2
Diseases of the Skin and Subcutaneous Tissue	0	4	3	2	0	0	11	0	1	0	0	0	0	1	12
Diseases of Musculoskeletal System and Connective Tissue	1	14	17	5	3	4	50	0	3	1	0	2	1	7	57
Congenital Abnormalities	0	1	0	2	0	0	3	0	0	0	0	0	0	0	3
Symptoms, Signs, and ill-Defined Conditions	0	20	8	8	3	3	49	1	6	2	1	2	0	14	63
Injury and Poisoning	4	40	33	18	10	3	129	0	8	3	2	1	0	15	144
<b>All Hospitalizations</b>	<b>17</b>	<b>168</b>	<b>120</b>	<b>70</b>	<b>31</b>	<b>22</b>	<b>506</b>	<b>4</b>	<b>35</b>	<b>22</b>	<b>7</b>	<b>10</b>	<b>5</b>	<b>93</b>	<b>599</b>

\* Includes normal delivery

§ Unknown age is included in totals

Source: Individual Patient Data System, USA Patient Administration Systems and Biostatistical Activity, Fort Sam Houston, TX

*Continued from page 9*

These studies will assess the hearing loss prevention program efforts of the U.S. Army, and will identify some of the occupational and behavioral risk factors for hearing loss. In addition, it will be important in the future to identify corrective interventions to mitigate the risks, and to find out the appropriate implementation strategies for those interventions.

#### References:

1 Centers for Disease Control. Leading work-related disease and

*Editorial comment submitted by Tilahun Adera, MPH, Ph.D, Department of Preventive Medicine & Community Health, Medical College of Virginia*

injuries - U.S. MMWR. 1983; 32:24-26

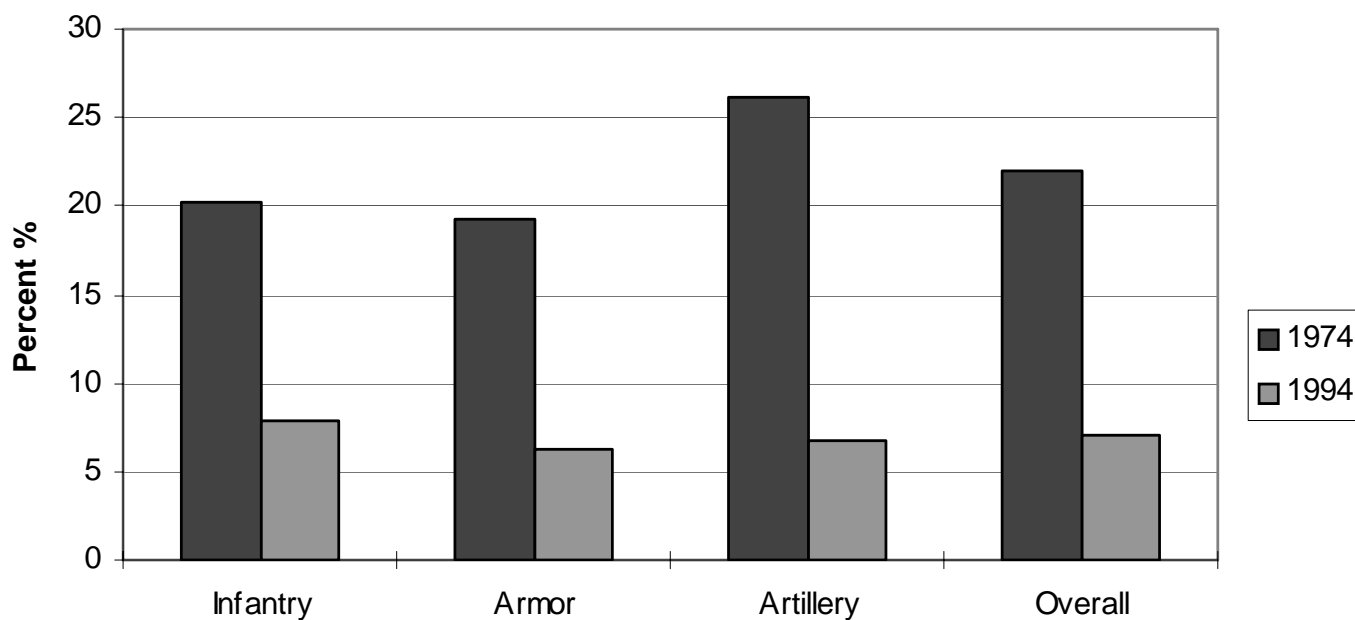
2 Self-reported hearing loss among workers potentially exposed to industrial noise - U.S. MMWR. 1988; 259:2213-2217.

3 National Institute for Occupational Safety and Health: Criteria for a recommended standard occupational exposure to noise, HSM 73-1101, Washington, D.C. 1972, US Government Printing Office.

4 Allenyne BC, Dufresne RM, Nasim K, Reesal MR. Costs of Workers' Compensation Claims for Hearing Loss. J Occup Med. 1989;31:134-138.

5 American National Standards Institute, Accredited Standards Committee S12, Noise. (1991). Draft American National Standard Evaluating the Effectiveness of Hearing Conservation Programs. (Draft ANSI S12.13-1991). New York:Acoustical Society of America Through the American Institute of Physics.

**Figure 2. Prevalence of Moderate to Severe Hearing loss (H-3 or greater Profile) among Enlisted Combat Arms Soldiers 1974 and 1994**



*Continued from page 10*

and abdomen. These lesions are continuing to fade with Multi-Drug Treatment (MDT); the patient has experienced a slow return of sensation.

Currently her Multi-Drug Treatment (MDT) regimen includes Dapsone 100mg qd, Rifampin 600mg q month, Clofazimine 50mg qd, 300 mg q month and Prednisone 5mg qod (tapering dose)

*Submitted by MAJ Scott Stanek, MC, Chief, Preventive Medicine Service, Fort Hood, TX*

**Editorial Comment** Hansen's Disease is a chronic infectious disease caused by *Mycobacterium leprae*, an acid-fast, rod-shaped bacillus. Today, more than 1.8 million persons are suffering from Hansen's Disease and more than 550,000 new cases are detected annually, 100,000 of whom are children. The disease mainly affects the skin, the peripheral nerves, the mucosa of the upper respiratory tract, and the anterior chamber of the eyes, as well as other cool tissue sites. Hansen's Disease is an insidious, slowly-developing disease which flourishes mainly in tropical climates. It once affected every continent in the world and is now found mainly in India, Indonesia, and Myanmar which account for 70 percent of all cases.

The Philippines is one of the most endemic countries in the world with 20,000 estimated cases, 16,486 registered cases, 4,450 new cases a year. Comparatively, Guam has 20 registered cases with 4 new cases reported per year.

G.A. Hansen discovered *M. leprae* in 1873,

it was the first bacterium identified as causing disease in man. However, treatment for leprosy only appeared in the late 1940's with the introduction of dapsone, and its derivatives. Leprosy bacilli resistant to dapsone gradually appeared and became widespread. It is, therefore, imperative to follow the WHO recommended MDT regimens described below.

#### Reference

1. W.H.O. Weekly Epidemiological Report ,23 June 1995; No. 70

*Editorial comments submitted by Dr. Gerald Walsh, Leonard Wood Memorial, American Leprosy Foundation*

### Treatment regimens for Leprosy

#### Multibacillary leprosy

(adult dosage - 24 month duration)

Rifampin: 600mg once per month

Dapsone: 100mg daily

Clofazimine: 300mg once a month  
and 50 mg daily

#### Paucibacillary leprosy

(adult dosage - 6 month duration)

Rifampin: 600mg once per month

Dapsone: 100mg daily

### Correction:

The editorial comments for "Injuries Among Women and Men in Gender Integrated BCT Units, Ft Leonard Wood 1995", MSMR Vol 02 No 02, were submitted by COL Michael A. Smutok, SP, Chief, Occupational Medicine Division, US Army Research Institute of Environmental Medicine, Natick, MA.

ARD Surveillance UpdateLegend

—	ARD Rate	= (ARD cases / Trainees) * 100
■ ■ ■	SASI*	= ARD Rate    Strep Rate**

FT Benning

Ft Jackson

Ft Knox

Ft Leonard  
Wood

Ft McClellan

Ft Sill

**Table IV. ARD surveillance rates, submitted by Army TRADOC posts**

\* Strep/ARD Surveillance Index (SASI)

\*\*Strep Rate = (GABHS(+) / Cultures) 100

Note: SASI has proven to be a reliable predictor of serious strep-related morbidity, especially acute rheumatic fever.





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